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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,716	03/16/2004	Katsumasa Hijikata	2004-0416A	1033

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WENDEROTH, LIND & PONACK L.L.P.  
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SUITE 800  
WASHINGTON, DC 20006

EXAMINER
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SHINGLETON, MICHAEL B

ART UNIT	PAPER NUMBER
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2815

MAIL DATE	DELIVERY MODE
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06/26/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/800,716	<b>Applicant(s)</b> HIJIKATA ET AL.	
	<b>Examiner</b> Michael B. Shingleton	<b>Art Unit</b> 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on April 21, 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 15-26 is/are pending in the application.
- 4a) Of the above claim(s) 3, 18, 23, 25 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5, 15-17, 19-22 and 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

Applicant's election of Species I in the reply filed on 4-21-2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### *Claim Rejections - 35 USC § 112*

Claims 1, 2, 4, 5, 15-17, 19-22 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Note that the Halliburton decision recited below relates to the situation where applicant is very specific as to specific limitations on structure that has already been "seen" and then the claims seems to recite functional language "at the exact point of novelty". Many times these types of claims are indefinite. Again the Halliburton decision states: Claims could be held indefinite "when the inventor is painstaking when he recites what has already been seen, and then uses conveniently functional language at the exact point of novelty". The Halliburton decision recited two Supreme Court cases that "identified the dangers of using only functional claim limitations to distinguish the claimed invention from the prior art" and these are General Electric, 304 U.S. at 371 and United Carbon, 317 U.S. at 234. In the instant case in applicant's claimed invention it would be simply be impossible to have a control circuit that can make the recited cutoff frequency or resonance frequency constant for all range of values in the circuit that would include all values for the power supply, all frequencies applied at the input, all points in time, etc. and thus there must be more to the claims than is positively recited. The examiner has first viewed this language as just broad and breath is not indefiniteness, but it appears especially in light of applicant's remarks and the lack of an amendment to the claims on this issue to make the claims sufficiently definite that there is(are) missing necessary elements/steps in the claims. The Halliburton decision states that the "claims be sufficiently definite to inform the public of the bounds of the protected invention". The scope of the claims are therefore indefinite in view of the Halliburton decision for essential elements and steps necessary to determine the scope of the claim is(are) missing. Is it constant for all values and if not what are these values these frequencies are constant for, which would appear to be necessary to know what the meets and bounds of the claim are?

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If it is truly an invention that cannot be made that applicant is trying to recite, then possibly there is a 35 USC 112 first paragraph issue with how to make the control circuit as the control circuit shown and described is merely shown as a black box in the original disclosure. Stated in other words if applicant meant that the control circuit makes the frequency constant for the cutoff and resonance values for all values of the circuit that include the all values of the signals/voltages/frequencies applied thereto then how would one make such an impossible structure as it is impossible?

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5, 16, 17 and 20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ishii et al. US 5,280,641 (Ishii).

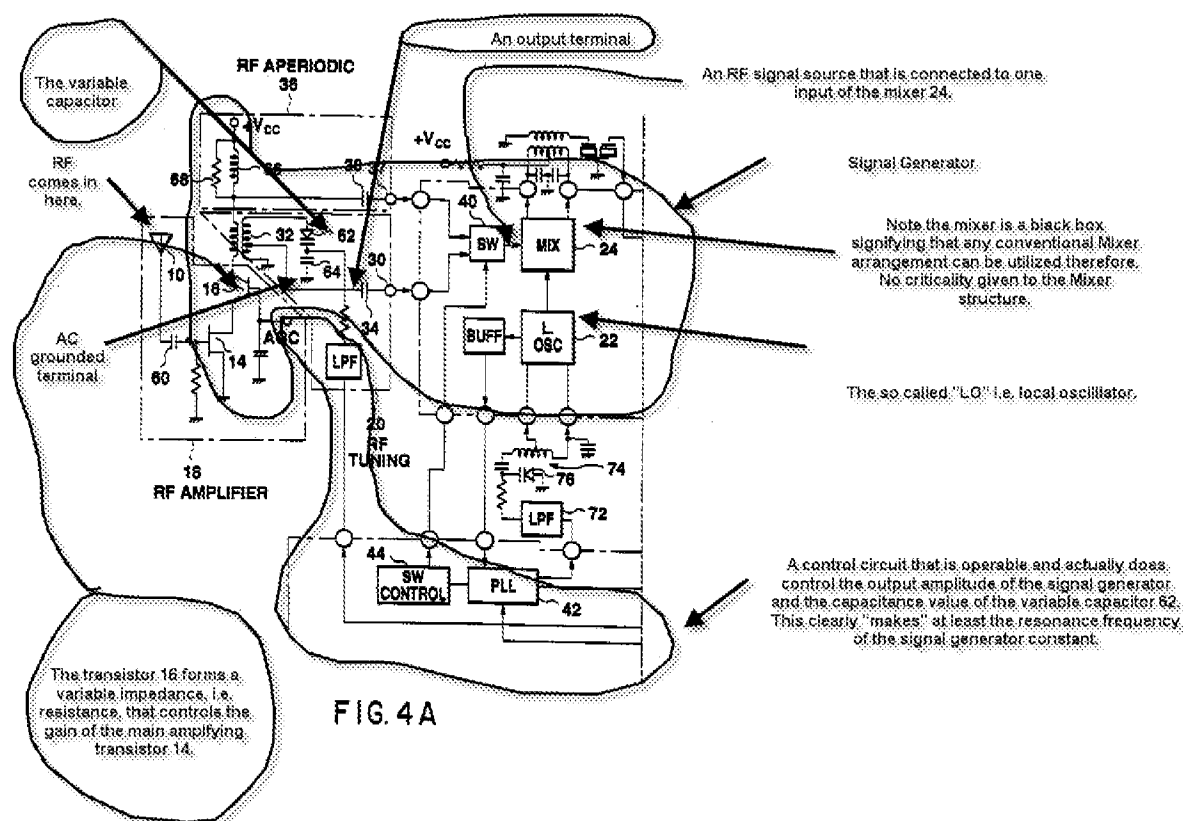


Figure 4A of Ishii

Figure 4A and the relevant text of Ishii discloses a variable gain amplification circuit having a signal generator as indicated above whereby element 16 forms a variable resistor element that is also part of the load for the source/drain of the main amplifying transistor 14. Also the resistor 68 is shown in Ishii as a load for the amplifier or signal generator and while this element is shown as a non-adjustable element to make an element adjustable has long been held as “not a patentable advance”, i.e. it would have been obvious to one of ordinary skill in the art. See *In re Stevens*, 101 USPQ 284 (CCPA 1954). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the element 68 adjustable so as to allow for the tuning of the circuit so as to select the optimum or workable range for the device as is known in the art and as is within routine skill. Element 62 is a variable capacitor that is connected between the output terminal, i.e. the tap on secondary 32 and an AC ground, i.e. note the ground symbol. As indicated in the above the circuitry that provides the control

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signal for the variable capacitor and the AGC signal forms the claimed control circuit. The control signal  $V_T$  for the variable capacitor clearly controls the capacitance value of the variable capacitor 62. The claims now recite, i.e. have been amended to recite that the capacitance *makes* either the cutoff frequency or the resonance frequency of the signal generator constant. This is what happens in Ishii. Note that although the signal  $V_T$  may vary for a short period the value the signal does settle down to a single value and remains there till the tuning point is changed thereby making the resonance frequency of the signal generator constant that also corresponds to the maximum point of signal strength.

Claims 4, 15, 19, 21, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. US 5,280,641 (Ishii).

Claim 15 recites that the RF signal source has a “signal band”, i.e. bandwidth??? equal to or larger than 100MHz. Ishii is silent on this particular bandwidth setting. However, selecting the values and quality of the passive elements like the capacitor is merely the discovery of the workable range for the circuit of Ishii. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the values of the circuit elements in Ishii to achieve a 100MHz or greater bandwidth, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105, USPQ 233.

The signal generator of Ishii also includes a Mixer 24 but Ishii is silent on the details of the construction of the mixer itself. Also Ishii includes a Local Oscillator 22, i.e. “LO”???. It is well known that one art recognized equivalent form of mixer is one that has a variable gain. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have replaced the mixer 24 of Ishii with one that has a variable gain because as the Ishii reference is silent on the exact details of the construction of the mixer 24 one of ordinary skill in the art would have been motivated to use any art-recognized equivalent mixer such as a variable gain mixer.

With respect to new claims 22 and 24, these claims recite art recognized equivalent forms of variable resistor and capacitor elements. It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the resistor and capacitor elements of the Ishii reference with these art recognized equivalent forms of resistors and capacitors as set forth by the claims because these are art recognized equivalents. These would work as expected and no unexpected results would occur from using one art-recognized equivalent element over another.

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Applicant's arguments with respect to claims of record have been considered but are moot in view of the new ground(s) of rejection. However the following remarks are offered: Applicant still makes issue with the phrase "to make a cutoff frequency or a resonance frequency of said signal generator constant". The examiner has stated that this is inherent and applicant has not provided any convincing evidence that such is not the case and the examiner has stated just how broad this is which applicant is apparently reading the claims too narrowly. The claims could be said to be indefinite because which is it, to make the cutoff frequency constant or the resonance frequency constant? The examiner again takes the position that the claims are just broad. As stated the range of operating values the cutoff frequency or the resonance frequency is to remain constant is not recited i.e. it is ambiguous. Does is claims say that the resonance frequency is held constant from 10 Hz to 100Hz for example by the control circuit? No. The examiner recited that at steady state the cutoff or the resonance frequency will be constant for at least a very small change in values. No proof to the contrary has been presented by applicant. The examiner has stated many times that the broadest reasonable interpretation of the claims must be given. See MPEP 2111 and MPEP 904.01 is clear on this. Even in applicant's invention it would be impossible to make this frequency constant for all range of values in the circuit that would include all values for the power supply, all frequencies applied at the input, etc. and thus there must be more to the claims than is positively recited. If not then possibly there is a 35 USC 112 first paragraph issue with how to make the control circuit as the control circuit is merely shown as a black box and if applicant meant that the control circuit makes the frequency constant for the cutoff and resonance values for all values of the circuit and signals/voltages/frequencies applied thereto then how would one make such an impossible structure as it is impossible? The range of values is not specifically recited by the claims thus the examiner has no recourse but to view the claims as broad as they are. Let's try to give another example to make the examiner's point clear as to the large breath of the claims of the instant application. Lets say that the claims stated that the "voltage gain of the amplifier is constant". Is there an amplifier in existence that has a constant voltage gain for all values of the input voltage? No. There are input voltage values that will destroy the amplifier so the voltage gain cannot be constant. The claims are ambiguous as to what structure is meant here. Note that the term "ambiguous" does not necessary mean indefiniteness it could mean just breath, i.e. it is not specific. As the claim is ambiguous as to structure, so will a prior art amplifier that has a constant voltage gain for a finite range of input values meet this type of claim. You bet ya, this should be clear to anyone. The claims in this example are broad.

Also applicant should note that having the control circuit set or control the cutoff frequency constant or the resonance frequency to be constant may not be for a range of values, it may be just for a particular

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point in time. So is there a point in time in the prior art that these frequency value(s) are constant. Yes and the examiner has pointed to “steady state”. Thus, the more the examiner looks at this language the more that the examiner believes that the claims are not just broad, but are missing necessary, i.e. essential structure in steps in the claim that are needed in order to understand what is claimed and this is supported by the Halliburton decision discussed below.

It is a fact that what structure is being recited by applicant's claims is ambiguous or ambiguously presented in the claims. There is no detail of how the control circuit is constructed or what the control circuit is composed of and most certainly the claims don't recite what the control circuit is composed of or how the control circuit is constructed to provide for the very broad limitation of "to make a cutoff frequency or a resonance frequency of said signal generator constant." Halliburton Energy Services, Inc v M-I LLC, Fed. Cir, 2007-1149. states: **“[b]ecause claims delineate the patentee's right to exclude, the patent statute requires that the scope of the claims be sufficiently definite to inform the public of the bounds of the protected invention, i.e., what subject matter is covered by the exclusive rights of the patent. Otherwise, competitors cannot avoid infringement, defeating the public notice function of the patent claims.”** As recited in the above Halliburton decision the court says **“We note that the patent drafter is in the best position to resolve ambiguity in the patent claims, and it is highly desirable that the patent examiners demand that applicants do so in appropriate circumstances so that the patent can be amended during prosecution rather than attempting to resolve the ambiguity in litigation.”** Also note that the Halliburton decision relates to the situation where applicant is very specific as to specific limitations on structure that has already been “seen” and then the claims seems to recite functional language “at the exact point of novelty”. Many times these types of claims are indefinite. Again the Halliburton decision states: Claims could be held indefinite **“when the inventor is painstaking when he recites what has already been seen, and then uses conveniently functional language at the exact point of novelty”**. The Halliburton decision recited two Supreme Court cases that “identified the dangers of using only functional claim limitations to distinguish the claimed invention from the prior art” and these are General Electric, 304 U.S. at 371 and United Carbon, 317 U.S. at 234. What is needed in this application is clear limitations to positive structure in the claims that can distinguish the claimed invention over the prior art, i.e. the claimed positive limitations to structure will not read on the prior art. The ambiguity in the claims of the instant application should be resolved so as to inform the public of the bounds of the protected invention.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571) 272-1770.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker, can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MBS  
April 20, 2007  
June 19, 2008

/Michael B Shingleton/  
Michael B Shingleton  
Primary Examiner  
Group Art Unit 2815